

ESCO NEWS

OCCASIONAL NEWS AND INFORMATION FROM ESCO ENGINEERING NO. 3, August 1992

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APPOINTMENT

We are pleased to announce that Jane Stone will be joining ESCO as a project engineer on September 1, 1992. Jane is a graduate chemical engineer. She has worked in design and operations in the chlorate, chlorine dioxide, organic chemical and paper industries.

Jane will add significantly to ESCO's engineering capabilities, and enable us to serve our customers even better - and, of course, it will be a particular pleasure for Neil Stone to work with his daughter, once again.

FUME EXHAUST TIPS #1

Keep the Flow Down

Fume exhaust is not a direct revenue-producing operation, although it does result in savings in maintenance costs (by reducing plant corrosion) and workers compensation costs (by protecting employee health and safety). However, in general, capital costs for fume exhaust must be minimised.

The most important factor in the cost of a fume exhaust system is the flow rate. A system should be designed for the minimum possible flow, and with the smallest acceptable safety factor. Excessive flows have the following disadvantages:

- higher cost of equipment
- higher water consumption in fume scrubber
- greater loss of process materials
- lower concentration of fumes make scrubbing more difficult
- increased cost for heating or air-conditioning of make up air

Ideally, the fume exhaust rate should be zero - as in special designs such as fumeless wire strand picklers. For many systems, this is not practical - for these, the flow should be minimised.

Flow reduction starts with hood and equipment design - these will be discussed in the next installment.

STUDENT'S VIEW

This summer, 4th year U. of Toronto chemical engineering student, Gina Mollicone, has been working at ESCO, to gain work experience. We asked her for her impressions:

The best engineering job, for a student, is one where the emphasis is on being an engineer, not a student. This includes jobs with a certain degree of responsibility and independent work.

That is exactly the kind of experience I have gained working at ESCO, because the jobs that I was given were "real" jobs with "real" problems. More importantly, the mistakes I made were "real" too. One effective way to learn is to do it wrong the first time. However, most companies* can't afford to let their engineers make mistakes. I feel much more confident about entering the work force now that I have a good collection of mistakes under my belt. This will allow me to be much more sure of myself in the future.

* This includes ESCO - Ed.

ESCO WORKS

Some recent jobs by ESCO include:

- chlorine and particulate scrubber for furnace offgas
- cold mill waste treatment study
- tomato scalding process evaluation
- pickling fume scrubber process investigation

VIEW FROM THE FIELD

ESCO's field technician and design co-ordinator offers you these suggestions:

Preventive Maintenance vs. Operating Procedure

The operator faithfully, on a regular basis, adjusts the water flow to a processing unit to keep a steady flowrate because he has been told to do so by his foreman. He has done this for years; but does he really know why? The unit in question really does not cause any production problems if it is not running well so who cares? So why is this unit there in the first place? Does it perform some vital function for some other part of the process? Of course it does, otherwise it would not be there! Suddenly someone in the other part of the process notices a frightening change: it's that xyz unit that whatshisname operates, - maintenance never looked at that #@!?)&(+\>/ thing for years! Maintenance finds that the water had been gradually bypassing some internal part of the processing unit for some time. Had the operator **KNOWN** how to read the unit performance, a small adjustment within the unit would have **PREVENTED** the shut down for maintenance. Preventive maintenance or faulty operating procedure?? You decide - and do yourself a favour: let your operator know why, how and what for he is operating his equipment.

PUBLICATIONS

ESCO has produced a completed revised and re-written version of the very popular "Whys and Hows of Sulfuric Acid Pickling and Recovery". Written in an easy to understand style, the booklet is an invaluable source of information about all aspects of sulfuric acid pickling - theory; practical operating tips; pollution control; fume exhaust. For your **free** copy, write or fax us.

GENERATING WEALTH

There is a regrettable tendency on the part of economic gurus to assume that:

- we can have a completely service-based economy
- we can do any job with a computer

The results of these ideas have been a dramatic reduction in manufacturing capacity, and a shortage of young people trained in manual skills.

Although we appreciate the value of computers, when properly used, ESCO engineers and designers always try to keep the practical matters of operation and maintenance in mind in their designs.

At ESCO we certainly realise that, as a service industry, we do not create wealth - we only help primary industry to create wealth. Without manufacturers to service, we have no business.

That is why we strive to produce the engineering solution that is best for **you** - because your success is our success.

GOOD FOR A LAUGH

Non technical people (NTP) often find themselves in trouble with foot-in-mouth disease when they take part in discussion on pollution or environmental control. Here are two (true) examples:

- In a discussion on pH, engineers suggested an allowable pH range of 6-9. The NTP said "Why let them get away with that - make them reduce it to zero!"
- At a conference on the environment, an NTP said "If carbon dioxide causes global warming - why don't we just burn it?!"

food and chemical process plant design • piping • metal pickling • fume and pollution control

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